

ATTACHMENT #21

FMVSS AND EUROPEAN VEHICLE STANDARDS SUMMARY

(28 Pages)



INFORMATION FOR NEW MANUFACTURERS OF MOTOR VEHICLES AND MOTOR VEHICLE EQUIPMENT

(10-99)

PURPOSE:

To identify relevant Federal statutes and National Highway Traffic Safety Administration (NHTSA) standards and other regulations that affect motor vehicle and motor vehicle equipment manufacturers. This information document merely highlights the major requirements for manufacturers; each manufacturer should consult the specific statutes, regulations, and standards to determine its responsibilities. All references below to NHTSA regulations are found in *Title 49 of the Code of Federal Regulations (CFR) Parts 400-999*. This manual also refers to Federal Motor Vehicle Safety Standards (FMVSS) which are found at 49 CFR Part 571 (see page 7).

FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS) and REGULATIONS:

Title 49 U.S.C. 30111 authorizes NHTSA to issue safety standards for new motor vehicles and new motor vehicle equipment. All motor vehicles and items of motor vehicle equipment manufactured or imported for sale in the United States must comply with all applicable FMVSS. Certain motor vehicles must also comply with regulations at 49 CFR Parts 541, *Theft Prevention* and 581, *Bumper Standard*.

<p align="center">Information that must be submitted to NHTSA or applied to product by all motor vehicle or motor vehicle equipment manufacturers (equipment covered by FMVSS) offering products for use in the USA</p> <p align="center">NOTE: Foreign motor vehicle equipment manufacturers (equipment covered by FMVSS) must designate an "Agent for Service of Process" before offering products for importation in the USA.</p>		
Motor Vehicle Manufacturers (including Final Stage and Alterers) or Motor Vehicle Equipment Manufacturers	Required Submissions	Certification of Compliance
Domestic motor vehicles	Part 565, Part 566 (Part 565 not required of final stage manufacturers or alterers)	Must attach Part 567 Certification Label to vehicle; final stage mfgs and alterers must attach labels respectively §567.5 and §567.7
Foreign motor vehicles	Part 551.45, Part 565, Part 566 (Part 565 not required of final stage manufacturers or alterers)	Must attach Part 567 Certification Label to vehicle; final stage mfgs and alterers must attach labels respectively §567.5 and §567.7
Domestic manufacturers of seat belts	Part 566	Must attach manufacturer's information to fabric
Foreign manufacturers of seat belts	Part 551.45, Part 566	Must attach manufacturer's information to fabric
Domestic manufacturers of brake hose, brake hose assemblies, lamps and (other than passenger car) rims	Part 566, Brake hose and brake hose assembly manufacturers must also file their designation (symbol) with NHTSA	DOT symbol and manufacturer's designation (symbol) on product
Foreign manufacturers of brake hose, brake hose assemblies, lamps and (other than passenger car) rims	Part 551.45, Part 566. Brake hose, and brake hose assembly manufacturers must also file their designation (symbol) with NHTSA	DOT symbol and manufacturer's designation (symbol) on product
Domestic manufacturers of glazing, new tires, passenger car retreaded tires	Part 566 (glazing), Part 574.6 (tires) Must secure an identifier from NHTSA to label products	DOT symbol and manufacturer's identifier on product
Foreign manufacturers of glazing, new tires, passenger car retreaded tires	Part 551.45, Part 566 (glazing), Part 574.6 (tires), Must secure an identifier from NHTSA to label products	DOT symbol and manufacturer's identifier on product

Manufacturers of motor vehicles must certify compliance of their products in accordance with Part 567, *Certification*. Persons finishing an incomplete vehicle must submit information in accordance with Part 566, *Manufacturer Identification*, and certify compliance of a vehicle in accordance with Part 567 and Part 568, *Vehicles Manufactured In Two Or More Stages*. Persons altering a new vehicle prior to its first sale to a consumer, must submit information in accordance with Part 566, *Manufacturer Identification*. Vehicle alterers, under Part 567.7, *Requirements for Persons Who Alter Certified Vehicles*, are required to certify that vehicles, as altered, continue to comply with FMVSS.

DESIGNATION OF AGENT FOR FOREIGN MANUFACTURERS: Part 551, *Procedural Rules*, requires all manufacturers offering motor vehicles or equipment for importation into the United States to designate a permanent resident of the United States as the manufacturer's agent for service of all process, notices, orders, and decisions. This designation must be mailed to the NHTSA Chief Counsel (Section 551.45).

VEHICLE IDENTIFICATION NUMBER (VIN): Part 565, *Vehicle Identification Number*, requires each motor vehicle to have a VIN. The content requirements for the VIN are in Part 565.6. The requirement for manufacturers to submit VIN identifiers to the NHTSA VIN Coordinator is in Section 565.7(c).

MANUFACTURER IDENTIFICATION: Part 566, *Manufacturer Identification*, requires each manufacturer of motor vehicles or motor vehicle equipment, to which a FMVSS applies, to submit information identifying itself and its products to NHTSA no later than 30 days after it begins production of that product and to submit revised information not later than 30 days after the relevant change occurs.

CONSUMER INFORMATION: Part 575, *Consumer Information*, requires manufacturers to make specific information available to consumers.

BUMPERS: 49 U.S.C. 32502 directs NHTSA to issue and enforce bumper standards for passenger vehicles to reduce the economic loss resulting from damage to cars involved in motor vehicle accidents. Part 581, *Bumper Standard*, sets forth the requirements for passenger vehicles.

TIRES and RIMS: In addition to the safety standards for tires in FMVSS 109, 117, 119, and 129, manufacturers of tires should also consult Part 569, *Regrooved Tires*, and Part 574, *Tire Identification and Recordkeeping*. Information concerning tire and rim selection requirements are found in FMVSS 110 and 120.

SAFETY-RELATED DEFECTS AND NONCOMPLIANCES: 49 U.S.C. 30118 requires manufacturers to notify purchasers of motor vehicles or motor vehicle equipment containing safety-related defects and failures to comply with the standards. 49 U.S.C. 30120 requires manufacturers to remedy such defects and noncompliances without charge. The following regulations relate to defect and noncompliance notification and remedy campaigns: Part 556, *Exemption for Inconsequential Defect or Noncompliance*; Part 573, *Defect and Noncompliance Reports*; Part 577, *Defect and Noncompliance Notification*; and Part 579, *Defect and Noncompliance Responsibility*. Part 576, *Record Retention*, sets forth requirements for motor vehicle manufacturers' retention of complaints, reports, and other records concerning safety-related motor vehicle malfunctions.

VIOLATIONS: Each violation is punishable by a civil penalty of up to \$1,100 per violation, with a maximum of \$925,000 for a related series of violations (49 U.S.C. 30165, 49 CFR Part 578, *Civil Penalties*).

FUEL ECONOMY: 49 U.S.C. 32911 requires manufacturers to comply with the applicable average fuel economy standard. Each passenger automobile or light truck manufacturer must achieve a minimum corporate average fuel economy (CAFÉ) or be subject to penalties for violations. Standards for passenger cars are found in Part 531, *Passenger Automobile Average Fuel Economy Standards*. Standards for light duty trucks are found in Part 533, *Light Truck Fuel Economy Standards*. Manufacturers are required to file CAFÉ reports under Part 537, *Automotive Fuel Economy Reports*. Several regulations provide procedures under which manufacturers may apply for exemptions from or for flexibility in achieving compliance with the CAFÉ standards. See Part 525, *Exemptions from Average Fuel Economy Standards* (for low-volume manufacturers); Part 526, *Petitions and Plans for Relief Under the Automobile Fuel Efficiency Act of 1980*; and Part 535, *Three-year Carryforward and Carryback of Credits for Light Trucks*. Credits may also be available for a manufacturer of passenger cars under 49 U.S.C. 32901. Manufacturers should also be aware of Part 529, *Manufacturers of Multistage Automobiles*.

THEFT PREVENTION: 49 U.S.C. 33102 and 33103 require motor vehicle manufacturers to affix or inscribe anti-theft identification markings to major parts and replacement parts for certain lines of passenger cars, light trucks and MPVs designated as high theft lines. Part 541, *Federal Motor Vehicle Theft Prevention Standard* identifies the requirements which became effective in model year (MY) 1987 for passenger cars and MY 1997 for light trucks and multipurpose passenger vehicles. Part 542, *Procedures for Selecting Lines to be Covered by the Theft Prevention Standard*, requires a manufacturer to submit information to determine if a new line is covered by the standard. Part 543, *Exemption from Vehicle Theft Prevention Standard*, describes how to petition the agency for an exemption from the parts marking provisions of Part 541 when the carline has an anti-theft device installed as standard equipment.

DOMESTIC CONTENT PARTS LABELING: 49 CFR Part 583, *Automobile Parts Content Labeling*, establishes requirements for the disclosure of information relating to the countries or origin of the equipment of new passenger motor vehicles.

REQUESTS FOR INTERPRETATIONS: Persons requesting an interpretation of NHTSA regulations and standards should write the Office of Chief Counsel. Existing interpretations may be found at the NHTSA website: www.nhtsa.dot.gov/cars/rules/interps/.

WHERE TO OBTAIN MOTOR VEHICLE SAFETY STANDARDS AND REGULATIONS: The Federal motor vehicle safety standards (FMVSS) and other National Highway Traffic Safety Administration regulations can be obtained from Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954 Pittsburgh, PA 15250-7954, phone: (202) 512-1800. The title of the volume is *49 CFR 400-999*. See address page for complete mailing address.

OTHER REGULATORY AGENCIES: Persons requiring information on motor vehicle emission standards should contact the Office of Mobile Sources, Environmental Protection Agency.

Persons requiring information for importation of motor vehicles, and motor vehicle equipment should contact their local U.S. Customs Service Office.

Manufacturers should also contact appropriate State authorities to determine if any State laws apply to their business. An excellent source of information concerning State requirements is the American Association of Motor Vehicle Administrators.

Title 49 Code of Federal Regulations Parts 500-599

Regulations enforced by NHTSA

Regulations

Part 501	Organization and Delegation of Powers and Duties.
Part 509	OMB control numbers for Information collection requirements.
Part 510	Information gathering powers.
Part 511	Adjudicative procedures.
Part 512	Confidential business information.
Part 520	Procedures for considering environmental impacts.
Part 523	Vehicle classification.
Part 525	Exemptions from average fuel economy standards.
Part 526	Petitions and plans for relief under the Automobile Fuel Efficiency Act of 1980.
Part 529	Manufacturers of multistage automobiles.
Part 531	Passenger automobile average fuel economy standards.
Part 533	Light truck fuel economy standards.
Part 535	3-year carryforward and carryback of credits for light trucks.
Part 537	Automotive fuel economy reports.
Part 538	Manufacturing incentives for alternative fuel vehicles.
Part 541	Federal motor vehicle theft prevention standard.
Part 542	Procedures for selecting lines to be covered by the theft prevention standard.
Part 543	Exemption from vehicle theft prevention standard.
Part 544	Insurer reporting requirements.
Part 551	Procedural rules.
Part 552	Petitions for rulemaking, defect, and noncompliance orders.
Part 553	Rulemaking procedures.
Part 554	Standards enforcement and defects investigation.
Part 555	Temporary exemption from motor vehicle safety standards.
Part 556	Exemption for Inconsequential defect or noncompliance.
Part 557	Petitions for hearings on notification and remedy of defects.
Part 564	Replaceable light source information.
Part 565	Vehicle identification number requirements.
Part 566	Manufacturer identification.
Part 567	Certification.
Part 568	Vehicles manufactured in two or more stages.
Part 569	Regrooved tires.
Part 570	Vehicle in use inspection standards.
Part 571	Federal motor vehicle safety standards (see FMVSS applicability).
Part 572	Anthropomorphic test devices.
Part 573	Defect and noncompliance reports.
Part 574	Tire identification and recordkeeping.
Part 575	Consumer information regulations.
Part 576	Record retention.
Part 577	Defect and noncompliance notification.
Part 578	Civil penalties.
Part 579	Defect and noncompliance responsibility.
Part 580	Odometer disclosure requirements.
Part 581	Bumper standard.

- Part 582 Insurance cost information regulation.
- Part 583 Automobile parts content labeling.
- Part 585 Automatic restraint phase-in reporting requirements.
- Part 586 Side impact phase-in reporting requirements.
- Part 587 Side impact moving deformable barrier.
- Part 588 Child restraint systems recordkeeping requirements.
- Part 589 Upper interior component head impact protection phase-in reporting requirements.
- Part 590 Back door latch hinge, and lock phase-in reporting requirements.
- Part 591 Importation of vehicles and equipment subject to Federal safety, bumper and theft prevention standards.
- Part 592 Registered importers of vehicles not originally manufactured to conform to the Federal motor vehicle safety standards.
- Part 593 Determinations that a vehicle not originally manufactured to conform to the Federal motor vehicle safety standards is eligible for importation.
- Part 594 Schedule of fees authorized by 49 U.S.C. 30141.

FEDERAL MOTOR VEHICLE SAFETY STANDARDS (FMVSS); APPLICABILITY								
49 CFR Part 571	Passenger Car	MPV Lt Truck (1)	Heavy	Bus	Motorcycle	Trailer	Equipment	Low-speed
FMVSS Number								
100 Series (Crash Avoidance)								
101 Controls and Displays	●	●	●	●				
102 Transmission Shift Lever Sequence	●	●	●	●				
103 Windshield Defrosting and Defogging Systems	●	●	●	●				
104 Windshield Wiping and Washing Systems	●	●	●	●				
105 Hydraulic and Electric Brake Systems	●	●	●	●				
106 Brake Hoses	●	●	●	●	●	●	●	
108 Lamps, Reflective Devices and Associated Equipment	●	●	●	●	●	●	●	
109 New Pneumatic Tires	(3)	(4)		(4)		(4)	●	
110 Tire Selection and Rims	●						●	
111 Rearview Mirrors	●	●	●	● (5)	●			
113 Hood Latch System	●	●	●	●				
114 Theft Prevention	●	●						
116 Hydraulic Brake Fluids	●	●	●	●	●	●	●	
117 Retreaded Pneumatic Tires (passenger cars)							●	
118 Power-Operated Window Systems	●	●						
119 New Pneumatic Tires for Trucks, Buses etc.		(4)	(4)	(4)	(4)	(4)	●	
120 Tire Selection and Rims for Trucks, Buses etc.		●	●	●	●	●	●	
121 Air Brake Systems			●	●		●		
122 Motorcycle Brake Systems					●			
123 Motorcycle Controls and Displays					●			
124 Accelerator Control Systems	●	●	●	●				
125 Warning Devices							●	
129 New Non-Pneumatic Tires for Passenger Cars	(3)	(4)					●	
131 School Bus Pedestrian Safety Devices				● (5)				
135 Passenger Car Brake Systems	●	● (6)						

49 CFR Part 571	Passenger Car	MPV Lt Truck (1)	Heavy	Bus	Motorcycle	Trailer	Equipment	Low-speed
FMVSS Number								
200 Series (Crash Worthiness)								
201 Occupant Protection in Interior Impact	●	●		● (1)				
202 Head Restraints	●	●		● (1)				
203 Impact Protection for Driver Steering Controls	●	●		● (1)				
204 Steering Control Rearward Displacement	●	●		●				
205 Glazing Materials	(7)	(7)	(7)	(7)	(7)		●	(7)
206 Door Locks and Retention Components	●	●	●					
207 Seating Systems	●	●	●	●				
208 Occupant Crash Protection	●	●	●	●				
209 Seat Belt Assemblies	(7)	(7)	(7)	(7)			●	
210 Seat Belt Assembly Anchorages	●	●	●	●				
212 Windshield Mounting	●	●		● (1)				
213 Child Restraint Systems	●	●		●			●	
214 Side Impact Protection	●	●		● (1)				
216 Roof Crush Resistance	●	● (8)		● (8,9)				
217 Bus Emergency Exits and Window Retention				●				
218 Motorcycle Helmets							●	
219 Windshield Zone Intrusion	●	●		● (1)				
220 School Bus Rollover Protection				● (5)				
221 School Bus Body Joint Strength				● (5)				
222 School Bus Seating and Crash Protection				● (5)				
223 Rear Impact Guards							●	
224 Rear Impact Protection						● (2)		
225 Child Restraint Anchorage Systems	●	● (10)		● (1)				

49 CFR Part 571	Passenger Car	MPV Lt Truck (1)	Heavy	Bus	Motorcycle	Trailer	Equipment	Low-speed
FMVSS Number								
300 Series (Post Crash Protection)								
301 Fuel System Integrity	●	●		● (5)				
302 Flammability of Interior Materials	●	●	●	●				
303 Fuel System Integrity of Compressed Natural Gas Vehicles	●	●		● (1,5)				
304 Compressed Natural Gas Fuel Container Integrity							●	
500 Series (Low-Speed Vehicles)								
500 Low-Speed Vehicles								●
(1) Gross Vehicle Weight Rating (GVWR) less than or equal to 4,536 Kg (10,000 lb) (2) GVWR greater than 4,536 Kg (10,000 lb) (3) See FMVSS No. 110 (4) See FMVSS No. 120 (5) Applies to or has different requirements for School Buses (6) GVWR less than or equal to 3,500 Kg (7,716 lb) (7) For use in (8) GVWR less than or equal to 2,722 Kg (6,001 lb) (9) Does not apply to School Buses (10) GVWR less than or equal to 3,855 Kg (8,500 lb)								

Passenger Car: Motor vehicle with motive power, except a low-speed vehicle, multipurpose passenger vehicle, motorcycle or trailer designed for carrying 10 persons or less.

Multipurpose Passenger Vehicle: Motor vehicle with motive power, except a low-speed vehicle or a trailer designed to carry 10 persons or less which is constructed either on a truck chassis or with special features for occasional off-road operation.

Truck: Motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special purpose equipment.

Bus: Motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons.

School Bus: A bus that is sold, or introduced in interstate commerce, for purposes that include carrying students to and/or from school or related events, but does not include a bus designed and sold for operation as a common carrier in urban transportation.

Motorcycle: Motor vehicle with motive power, having a seat or saddle for use of the rider and designed to travel on not more than three wheels in contact with the ground.

Trailer: Motor vehicle with or without motive power, designed for carrying persons or property and for being drawn by another motor vehicle.

Motor Vehicle Equipment: Individual vehicle components or systems whether installed on a new vehicle or provided as a replacement or accessory that are subject to a FMVSS.

Low-Speed Vehicle: 4-wheeled motor vehicle, other than a truck, with a maximum speed greater than 20 and not more than 25 miles per hour.



AUTOMOTIVE INDUSTRY

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DIRECTIVES AND REGULATIONS ON MOTOR VEHICLES

(in reverse chronological order)

Links on a blue background take you to a full listing of amendments and adaptations of the Directive

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Reference	Title	Date of adoption
2007/46/EC	Establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive)	05.09.2007
2007/38/EC	The retrofitting of mirrors to heavy goods vehicles registered in the Community	11.07.2007
715/2007	Regulation of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information	20.06.2007
706/2007	Commission Regulation laying down, pursuant to Directive 2006/40/EC , administrative provisions for the EC type-approval of vehicles, and a harmonised test for measuring leakages from certain air conditioning systems	21.06.2007
2007/37/EC	Amendment of Directive 70/156/EEC and relating to Directive 2006/40/EC	21.06.2007
2007/35/EC	Amendment of Directive 76/756/EEC	18.06.2007
2007/34/EC	Amendment of Directive 70/157/EEC	14.06.2007
2007/15/EC	Amendment of Directive 74/483/EEC	14.03.2007
2006/119/EC	Amendment of Directive 2001/56/EC	27.11.2006
2006/51/EC	Amendment of Directives 2005/55/EC and 2005/78/EC	06.06.2006
2006/40/EC	Emissions from air conditioning systems in motor vehicles and amending Directive 70/156/EEC	17.05.2006

<u>2006/28/EC</u>	Amendment of Directives <u>72/245/EEC</u> and <u>70/156/EEC</u>	06.03.2006
<u>2006/20/EC</u>	Amendment of Directive <u>70/221/EEC</u>	17.02.2006
<u>2005/83/EC</u>	Amendment of Directive <u>72/245/EEC</u>	23.11.2005
<u>2005/78/EC</u>	Emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles	14.11.2005
<u>2005/66/EC</u>	Use of frontal protection systems on motor vehicles and amending Council Directive <u>70/156/EEC</u>	26.10.2005
<u>2005/64/EC</u>	Type-approval of motor vehicles with regard to their reusability, recyclability and recoverability and amending Council Directive <u>70/156/EEC</u>	26.10.2005
<u>2005/55/EC</u>	Emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles	28.09.2005
<u>2005/49/EC</u>	Amendment of Directives <u>72/245/EEC</u> and <u>70/156/EEC</u>	25.07.2005
<u>2005/41/EC</u>	Amendment of Directive <u>76/115/EEC</u>	07.09.2005
<u>2005/40/EC</u>	Amendment of Directive <u>77/541/EEC</u>	07.09.2005
<u>2005/39/EC</u>	Amendment of Directive <u>74/408/EEC</u>	07.09.2005
<u>2005/27/EC</u>	Amendment of Directive <u>2003/97/EC</u>	29.03.2005
<u>2005/21/EC</u>	Amendment of Directive <u>72/306/EEC</u>	07.03.2005
<u>2005/11/EC</u>	Adaptation of Directive <u>92/23/EEC</u>	16.02.2005
<u>2004/104/EC</u>	Adaptation of Directive <u>72/245/EEC</u> and amendment of Directive <u>70/156/EEC</u>	14.10.2004
<u>2004/78/EC</u>	Amendment of Directives <u>2001/56/EC</u> and <u>70/156/EEC</u>	29.04.2004
<u>2004/11/EC</u>	Amendment of Directive <u>92/24/EEC</u>	11.02.2004
<u>2004/3/EC</u>	Amendment of Directives <u>70/156/EEC</u> and <u>80/1268/EEC</u>	11.02.2004
<u>2003/102/EC</u>	Protection of pedestrians and other vulnerable road users before and in the event of a collision with a motor vehicle and amending Directive <u>70/156/EEC</u>	17.11.2003
<u>2003/97/EC</u>	Type-approval of devices for indirect vision and of vehicles equipped with these devices, amending Directive <u>70/156/EEC</u> and repealing Directive <u>71/127/EEC</u>	10.11.2003
<u>2003/76/EC</u>	Amendment of Directive <u>70/220/EEC</u>	11.08.2003
<u>2003/19/EC</u>	Amendment of Directive <u>97/27/EEC</u>	21.03.2003
<u>2002/80/EC</u>	Adaptation of Directive <u>70/220/EEC</u>	03.10.2002
<u>2002/78/EC</u>	Adaptation of Directive <u>71/320/EEC</u>	01.10.2002
<u>2001/116/EC</u>	Adaptation of Directive <u>70/156/EEC</u>	20.11.2001

<u>2001/100/EC</u>	Amendment of Directive <u>70/220/EEC</u>	07.12.2001
<u>2001/92/EC</u>	Adaptation of Directive <u>92/22/EEC</u> and <u>70/156/EEC</u>	30.10.2001
<u>2001/85/EC</u>	Special provisions for vehicles used for the carriage of passengers comprising more than eight seats in addition to the driver's seat, and adaptation of Directive <u>70/156/EEC</u> and <u>97/27/EC</u>	20.11.2001
<u>2001/56/EC</u>	Heating systems for motor vehicles and their trailers, amending Council Directive <u>70/156/EEC</u> and repealing Council Directive <u>78/548/EEC</u>	27.09.2001
<u>2001/43/EC</u>	Adaptation of Directive <u>92/23/EEC</u>	27.06.2001
<u>2001/31/EC</u>	Adaptation of Directive <u>70/387/EEC</u>	08.05.2001
<u>2001/27/EC</u>	Adaptation of Directive <u>88/77/EEC</u>	10.04.2001
<u>2001/1/EC</u>	Amendment of Directive <u>70/220/EEC</u>	22.01.2001
<u>2000/40/EC</u>	The approximation of the laws of the Member States relating to the front underrun protection of motor vehicles and amending Council Directive <u>70/156/EEC</u>	26.06.2000
<u>2000/8/EC</u>	Amendment of Directive <u>70/221/EEC</u>	20.03.2000
<u>2000/4/EC</u>	Amendment of Directive <u>74/60/EEC</u>	28.02.2000
<u>2000/3/EC</u>	Adaptation of Directive <u>77/541/EEC</u>	22.02.2000
<u>1999/102/EC</u>	Adaptation of Directive <u>70/220/EEC</u>	15.12.1999
<u>1999/101/EC</u>	Adaptation of Directive <u>70/157/EEC</u>	15.12.1999
<u>1999/100/EC</u>	Adaptation of Directive <u>80/1268/EEC</u>	15.12.1999
<u>1999/99/EC</u>	Adaptation of Directive <u>80/1269/EEC</u>	15.12.1999
<u>1999/98/EC</u>	Adaptation of Directive <u>96/79/EC</u>	15.12.1999
<u>1999/96/EC</u>	Amendment of Directive <u>88/77/EEC</u>	13.12.1999
<u>1999/18/EC</u>	Adaptation of Directive <u>76/762/EEC</u>	18.03.1999
<u>1999/17/EC</u>	Adaptation of Directive <u>76/761/EEC</u>	18.03.1999
<u>1999/16/EC</u>	Adaptation of Directive <u>77/540/EEC</u>	16.03.1999
<u>1999/15/EC</u>	Adaptation of Directive <u>76/759/EEC</u>	16.03.1999
<u>1999/14/EC</u>	Adaptation of Directive <u>77/538/EEC</u>	16.03.1999
<u>1999/7/EC</u>	Adaptation of Directive <u>70/311/EEC</u>	26.01.1999
<u>98/91/EC</u>	Motor vehicles and their trailers intended for the transport of dangerous goods by road and amending Directive <u>70/156/EEC</u>	14.12.1998
<u>98/90/EC</u>	Adaptation of Directive <u>70/387/EEC</u>	30.11.1998
<u>98/77/EC</u>	Adaptation of Directive <u>70/220/EEC</u>	02.10.1998
<u>98/69/EC</u>	Amendment of Directive <u>70/220/EEC</u>	13.10.1998
<u>98/14/EC</u>	Adaptation of Directive <u>70/156/EEC</u>	06.02.1998
<u>98/12/EC</u>	Adaptation of Directive <u>71/320/EEC</u>	27.01.1998

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<u>97/39/EC</u>	Adaptation of Directive <u>75/443/EEC</u>	24.06.1997
<u>97/32/EC</u>	Adaptation of Directive <u>77/539/EEC</u>	11.06.1997
<u>97/31/EC</u>	Adaptation of Directive <u>76/760/EEC</u>	11.06.1997
<u>97/30/EC</u>	Adaptation of Directive <u>76/758/EEC</u>	11.06.1997
<u>97/29/EC</u>	Adaptation of Directive <u>76/757/EEC</u>	11.06.1997
<u>97/28/EC</u>	Adaptation of Directive <u>76/756/EEC</u>	11.06.1997
<u>97/27/EC</u>	Masses and dimensions of certain categories of motor vehicles and their trailers and amendment of Directive <u>70/156/EEC</u>	22.07.1997
<u>97/21/EC</u>	Adaptation of Directive <u>80/1269/EEC</u>	18.04.1997
<u>97/20/EC</u>	Adaptation of Directive <u>72/306/EEC</u>	18.04.1997
<u>97/19/EC</u>	Adaptation of Directive <u>70/221/EEC</u>	18.04.1997
<u>96/79/EC</u>	Protection of occupants of motor vehicles in the event of a frontal impact and amendment of Directive <u>70/156/EEC</u>	16.12.1996
<u>96/69/CE</u>	Amendment of Directive <u>70/220/EEC</u>	08.10.1996
<u>96/64/EC</u>	Adaptation of Directive <u>77/389/EEC</u>	02.10.1996
<u>96/44/EC</u>	Adaptation of Directive <u>70/220/EEC</u>	01.07.1996
<u>96/38/EC</u>	Adaptation of Directive <u>76/115/EEC</u>	17.06.1996
<u>96/37/EC</u>	Adaptation of Directive <u>74/408/EEC</u>	17.06.1996
<u>96/36/EC</u>	Adaptation of Directive <u>77/541/EEC</u>	17.06.1996
<u>96/27/EC</u>	Protection of occupants of motor vehicles in the event of a side impact and amendment of Directive <u>70/156/EEC</u>	20.05.1996
<u>96/20/EC</u>	Adaptation of Directive <u>70/157/EEC</u>	27.03.1996
<u>96/1/EC</u>	Amendment of Directive <u>88/77/EEC</u>	22.01.1996
<u>95/56/EC</u>	Adaptation of Directive <u>74/61/EEC</u>	08.11.1995
<u>95/54/EC</u>	Adaptation of Directive <u>72/245/EEC</u> and amendment of Directive <u>70/156/EEC</u>	31.10.1995
<u>95/48/EC</u>	Adaptation of Directive <u>92/21/EEC</u>	20.09.1995
<u>95/28/EC</u>	Burning behaviour of materials used in interior construction of certain categories of motor vehicles	24.10.1995
<u>94/78/EC</u>	Adaptation of Directive <u>78/549/EEC</u>	21.12.1994
<u>94/68/EC</u>	Adaptation of Directive <u>78/318/EEC</u>	16.12.1994
<u>94/53/CE</u>	Amendment of Directive <u>93/91/EEC</u>	15.11.1994
<u>94/20/EC</u>	Mechanical coupling devices of motor vehicles and their trailers and their attachment to those vehicles	30.05.1994
<u>94/12/EC</u>	Amendment of Directive <u>70/220/EEC</u>	23.03.1994
<u>93/116/EC</u>	Adaptation of Directive <u>80/1268/EEC</u>	17.12.1993

<u>93/91/EEC</u>	Adaptation of Directive <u>78/316/EEC</u>	29.10.1993
<u>93/81/EEC</u>	Adaptation of Directive <u>70/156/EEC</u>	29.09.1993
<u>93/59/EEC</u>	Amendment of Directive <u>70/220/EEC</u>	28.06.1993
<u>92/114/EEC</u>	External projections forward of the cab's rear panel of motor vehicles of category N	17.12.1992
<u>92/97/EEC</u>	Amendment of Directive <u>70/157/EEC</u>	10.11.1992
<u>92/62/EEC</u>	Adaptation of Directive <u>70/311/EEC</u>	02.07.1992
<u>92/53/EEC</u>	Amendment of Directive <u>70/156/EEC</u>	18.06.1992
<u>92/24/EEC</u>	Speed limitation devices or similar speed limitation on-board systems of certain categories of motor vehicles	31.03.1992
<u>92/23/EEC</u>	Tyres for motor vehicles and their trailers and their fitting	31.03.1992
<u>92/22/EEC</u>	Safety glazing and glazing materials on motor vehicles and their trailers	31.03.1992
<u>92/21/EEC</u>	Masses and dimensions of motor vehicles of category M1	31.03.1992
<u>91/663/EEC</u>	Adaptation of Directive <u>76/756/EEC</u>	10.12.1991
<u>91/662/EEC</u>	Adaptation of Directive <u>74/297/EEC</u>	06.12.1991
<u>91/542/EEC</u>	Amendment of Directive <u>88/77/EEC</u>	01.10.1991
<u>91/441/EEC</u>	Amendment of Directive <u>70/220/EEC</u>	26.06.1991
<u>91/422/EEC</u>	Adaptation of Directive <u>71/320/EEC</u>	15.07.1991
<u>91/226/EEC</u>	Spray-suppression systems of certain categories of motor vehicles and their trailers	27.03.1991
<u>90/630/EEC</u>	Adaptation of Directive <u>77/649/EEC</u>	30.10.1990
<u>90/629/EEC</u>	Adaptation of Directive <u>76/115/EEC</u>	30.10.1990
<u>90/628/EEC</u>	Adaptation of Directive <u>77/541/EEC</u>	30.10.1990
<u>89/518/EEC</u>	Adaptation of Directive <u>77/538/EEC</u>	01.08.1989
<u>89/517/EEC</u>	Adaptation of Directive <u>76/761/EEC</u>	01.08.1989
<u>89/516/EEC</u>	Adaptation of Directive <u>76/758/EEC</u>	01.08.1989
<u>89/491/EEC</u>	Adaptation of Directives <u>70/157/EEC</u> , <u>70/220/EEC</u> , <u>72/245/EEC</u> , <u>72/306/EEC</u> , <u>80/1268/EEC</u> and <u>80/1269/EEC</u>	17.07.1989
<u>89/458/EEC</u>	Amendment of Directive <u>70/220/EEC</u>	18.07.1989
<u>89/297/EEC</u>	Lateral protection (side guards) of certain motor vehicles and their trailers	13.04.1989
<u>89/278/EEC</u>	Adaptation of Directive <u>76/756/EEC</u>	28.03.1989
<u>89/277/EEC</u>	Adaptation of Directive <u>76/759/EEC</u>	28.03.1989
<u>88/436/EEC</u>	Amendment of Directive <u>70/220/EEC</u>	16.06.1988
<u>88/366/EEC</u>	Adaptation of Directive <u>77/649/EEC</u>	17.05.1988
<u>88/321/EEC</u>	Adaptation of Directive <u>71/127/EEC</u>	16.05.1988

<u>88/195/EEC</u>	Adaptation of Directive <u>80/1269/EEC</u>	24.03.1988
<u>88/194/EEC</u>	Adaptation of Directive <u>71/320/EEC</u>	24.03.1988
<u>88/77/EEC</u>	Measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles	03.12.1987
<u>88/76/EEC</u>	Amendment of Directive <u>70/220/EEC</u>	03.12.1987
<u>87/403/EEC</u>	Amendment of Directive <u>70/156/EEC</u>	25.06.1987
<u>87/358/EEC</u>	Amendment of Directive <u>70/156/EEC</u>	25.06.1987
<u>87/354/EEC</u>	Amending certain directives on the approximation of the laws of the Member States relating to industrial products with respect to the distinctive numbers and letters indicating the Member States	25.06.1987
<u>86/562/EEC</u>	Adaptation of Directive <u>71/127/EEC</u>	06.11.1986
<u>85/647/EEC</u>	Adaptation of Directive <u>71/320/EEC</u>	23.12.1985
<u>85/205/EEC</u>	Adaptation of Directive <u>71/127/EEC</u>	18.02.1985
<u>84/424/EEC</u>	Amendment of Directive <u>70/157/EEC</u>	03.09.1984
<u>84/372/EEC</u>	Adaptation of Directive <u>70/157/EEC</u>	03.07.1984
<u>84/8/EEC</u>	Adaptation of Directive <u>76/756/EEC</u>	14.12.1983
<u>83/351/EEC</u>	Amendment of Directive <u>70/220/EEC</u>	16.06.1983
<u>83/276/EEC</u>	Amendment of Directive <u>76/756/EEC</u>	26.05.1983
<u>82/319/EEC</u>	Adaptation of Directive <u>77/541/EEC</u>	02.04.1982
<u>82/318/EEC</u>	Adaptation of Directive <u>76/115/EEC</u>	02.04.1982
<u>82/244/EEC</u>	Adaptation of Directive <u>76/756/EEC</u>	17.03.1982
<u>81/643/EEC</u>	Adaptation of Directive <u>77/649/EEC</u>	29.07.1981
<u>81/577/EEC</u>	Amendment of Directive <u>74/408/EEC</u>	20.07.1981
<u>81/576/EEC</u>	Amendment of Directive <u>77/541/EEC</u>	20.07.1981
<u>81/575/EEC</u>	Amendment of Directive <u>76/115/EEC</u>	20.07.1981
<u>81/334/EEC</u>	Adaptation of Directive <u>70/157/EEC</u>	13.04.1981
<u>81/333/EEC</u>	Adaptation of Directive <u>70/221/EEC</u>	13.04.1981
<u>80/1269/EEC</u>	Engine power of motor vehicles	16.12.1980
<u>80/1268/EEC</u>	Fuel consumption of motor vehicles	16.12.1980
<u>80/1267/EEC</u>	Amendment of Directive <u>70/156/EEC</u>	16.12.1980
<u>80/233/EEC</u>	Adaptation of Directive <u>76/756/EEC</u>	21.11.1979
<u>79/795/EEC</u>	Adaptation of Directive <u>71/127/EEC</u>	20.07.1979
<u>79/490/EEC</u>	Adaptation of Directive <u>70/221/EEC</u>	18.04.1979
<u>79/489/EEC</u>	Adaptation of Directive <u>71/320/EEC</u>	18.04.1979
<u>79/488/EEC</u>	Adaptation of Directive <u>74/483/EEC</u>	18.04.1979
<u>78/932/EEC</u>	Head restraints of seats of motor vehicles	16.10.1978

<u>78/665/EEC</u>	Adaptation of Directive <u>70/220/EEC</u>	14.07.1978
<u>78/632/EEC</u>	Adaptation of Directive <u>74/60/EEC</u>	19.05.1978
<u>78/549/EEC</u>	Wheel guards of motor vehicles	12.06.1978
<u>78/548/EEC</u>	Heating systems for the passenger compartment of motor vehicles	12.06.1978
<u>78/547/EEC</u>	Amendment of Directive <u>70/156/EEC</u>	12.06.1978
<u>78/507/EEC</u>	Adaptation of Directive <u>76/114/EEC</u>	19.05.1978
<u>78/318/EEC</u>	Wiper and washer systems of motor vehicles	21.12.1977
<u>78/317/EEC</u>	Defrosting and demisting systems of glazed surfaces of motor vehicles	21.12.1977
<u>78/316/EEC</u>	Interior fittings of motor vehicles (identification of controls, tell-tales and indicators)	21.12.1977
<u>78/315/EEC</u>	Amendment of Directive <u>70/156/EEC</u>	21.12.1977
<u>77/649/EEC</u>	Field of vision of motor vehicle drivers	27.09.1977
<u>77/541/EEC</u>	Safety belts and restraint systems of motor vehicles	28.06.1977
<u>77/540/EEC</u>	Parking lamps for motor vehicles	28.06.1977
<u>77/539/EEC</u>	Reversing lamps for motor vehicles and their trailers	28.06.1977
<u>77/538/EEC</u>	Rear fog lamps for motor vehicles and their trailers	28.06.1977
<u>77/389/EEC</u>	Motor vehicle towing devices	17.05.1977
<u>77/212/EEC</u>	Amendment of Directive <u>70/157/EEC</u>	08.03.1977
<u>77/102/EEC</u>	Adaptation of Directive <u>70/220/EEC</u>	30.11.1976
<u>76/762/EEC</u>	Front fog lamps for motor vehicles and filament lamps for such lamps	27.07.1976
<u>76/761/EEC</u>	Motor vehicle headlamps which function as main-beam and/or dipped-beam headlamps and incandescent electric filament lamps for such headlamps	27.07.1976
<u>76/760/EEC</u>	Rear registration plate lamps for motor vehicles and their trailers	27.07.1976
<u>76/759/EEC</u>	Direction indicator lamps for motor vehicles and their trailers	27.07.1976
<u>76/758/EEC</u>	End-outline marker lamps, front position (side) lamps, rear position (side) lamps, stop lamps, daytime running lamps and side marker lamps for motor vehicles and their trailers	27.07.1976
<u>76/757/EEC</u>	Reflex reflectors for motor vehicles and their trailers	27.07.1976
<u>76/756/EEC</u>	Installation of lighting and light-signalling devices on motor vehicles and their trailers	27.07.1976
<u>76/115/EEC</u>	Anchorage for motor vehicle safety belts	18.12.1975
<u>76/114/EEC</u>	Statutory plates and inscriptions for motor	

	vehicles and their trailers, and their location and method of attachment	18.12.1975
<u>75/524/EEC</u>	Adaptation of Directive <u>71/320/EEC</u>	25.07.1975
<u>75/443/EEC</u>	Reverse and speedometer of motor vehicles	26.06.1975
<u>74/483/EEC</u>	External projections of motor vehicles	17.09.1974
<u>74/408/EEC</u>	Seats, anchorages and head restraints of motor vehicles	22.07.1974
<u>74/297/EEC</u>	Interior fittings of motor vehicles (the behaviour of the steering mechanism in the event of an impact)	04.06.1974
<u>74/290/EEC</u>	Adaptation of Directive <u>70/220/EEC</u>	28.05.1974
<u>74/132/EEC</u>	Adaptation of Directive <u>71/320/EEC</u>	11.02.1974
<u>74/61/EEC</u>	Devices to prevent the unauthorized use of motor vehicles	17.12.1973
<u>74/60/EEC</u>	Interior fittings of motor vehicles (interior parts of the passenger compartment other than the interior rear-view mirrors, layout of controls, the roof or sliding roof, the backrest and rear part of seats)	17.12.1973
<u>73/350/EEC</u>	Adaptation of Directive <u>70/157/EEC</u>	07.11.1973
<u>72/306/EEC</u>	Measures to be taken against the emission of pollutants from diesel engines for use in vehicles	02.08.1972
<u>72/245/EEC</u>	Radio interference (electromagnetic compatibility) of vehicles	20.06.1972
<u>71/320/EEC</u>	Braking devices of certain categories of motor vehicles and their trailers	26.07.1971
<u>71/127/EEC</u>	Rear-view mirrors of motor vehicles	01.03.1971
<u>70/388/EEC</u>	Audible warning devices for motor vehicles	27.07.1970
<u>70/387/EEC</u>	Doors of motor vehicles and their trailers	27.07.1970
<u>70/311/EEC</u>	Steering equipment for motor vehicles and their trailers	08.06.1970
<u>70/222/EEC</u>	Space for mounting and the fixing of rear registration plates on motor vehicles and their trailers	20.03.1970
<u>70/221/EEC</u>	Liquid fuel tanks and rear protective devices for motor vehicles and their trailers	20.03.1970
<u>70/220/EEC</u>	Measures to be taken against air pollution by emissions from motor vehicles	20.03.1970
<u>70/157/EEC</u>	Permissible sound level and the exhaust system of motor vehicles	06.02.1970
<u>70/156/EEC</u>	Type-approval of motor vehicles and their trailers	06.02.1970

Last update: 14/02/2008

Comparison between FMVSS and European vehicle safety regulations

This vehicle was built according to European regulations and was not compared nor tested for FMVSS. Although it does not bare FMVSS's certification, some of them would be found in compliance if they were verified.

Standard No. 101; Controls and displays.

The equivalent European regulation is EEC 94/53

The only difference is the speedometer reading in km/h instead of mph.

The air pressure gauges are in Bars but FMVSS 101 does not specify the units. We only find it in FMCSA Part 39.51 where either Kpa or PSI are specified.

Standard No. 102; Transmission shift lever sequence, starter interlock, and transmission braking effect.

There is no FMVSS equivalent but FMVSS 102 would be met if verified.

Standard No. 103; Windshield defrosting and defogging systems.

There is no FMVSS equivalent but FMVSS 103 ask only for a Windshield defrosting and defogging systems and obviously all vehicles have that.

Standard No. 104; Windshield wiping and washing systems.

There is no FMVSS equivalent but FMVSS 104 would be met if verified.

Standard No. 106; Brake hoses.

There is no FMVSS equivalent, especially for the labelling. However brake hoses are made by the same manufacturers as in USA.

Standard No. 108; Lamps, reflective devices, and associated equipment

The equivalent European regulation is ECE 48-02. The number of lamps and their locations are very similar. However, FMVSS 108 is very specific and it is possible that some lamps are not DOT compliant.

Standard No. 111; Rearview mirrors.

The equivalent European regulation is ECE 46-02. The main difference is that convex mirrors are allowed.

Standard No. 120; Tire selection and rims for motor vehicles other than passenger cars.

The equivalent European regulation is EEC 92/23. I believe that both tires and rims are DOT labelled.

Standard No. 121; Air brake systems.

The equivalent European regulation is ECE 13. I believe it is at least equivalent to FMVSS 121 although all the tests must be performed to confirm it. The fittings are probably not DOT marked though.

Standard No. 124; Accelerator control systems.

There is no FMVSS equivalent but FMVSS 124 would be met if verified.

Standard NO. 125; Warning Devices

The equivalent European regulation is ECE 27. I don't know if the vehicle was delivered with those.

Standard No. 205, Glazing materials.

The equivalent European regulation is EEC 92/22. It is very similar to FMVSS 205. NHTSA is about to adopt the Global Technical Regulation (GTR) on Glazing at the March 2008 session of the World Forum for Harmonization of Vehicle Regulations (WP.29). See FR feb 11th 2008. All the glazing on the vehicle has the DOT labeling so it meets 205.

Standard No. 207; Seating systems.

The equivalent European regulation is ECE 80-01 but it is not as stringent as FMVSS 207.

Standard No. 208; Occupant crash protection.

This standard is met as a seat belt is provided for the driver.

Standard No. 209; Seat belt assemblies.

The equivalent European regulation is EEC 77. It is equivalent as FMVSS 209

Standard No. 210; Seat belt assembly anchorages.

The equivalent European regulation is ECE 80-01 and it is not as stringent as FMVSS 207.

Standard No. 217; Bus emergency exits and window retention and release.

The equivalent European regulation is ECE 36 using the option of breakable glazing. This does not meet FMVSS 217 as the exits must be openable. The vehicle has been modified by

an unknown party to accommodate openable windows. The vehicle was also fitted with two roof hatches.

Standard No. 302; Flammability of interior materials.

The equivalent European regulation is ECE 118. This standard is equivalent to FMVSS 302 but since the interior was finished in Mexico, it is not known if all the inside material would comply with this rule.

Standard NO. 404; Platform Lift Installations in Motor Vehicles

Not Applicable

Deny Bertrand

Regulatory Compliance Manager

Prevost

2008-02-14

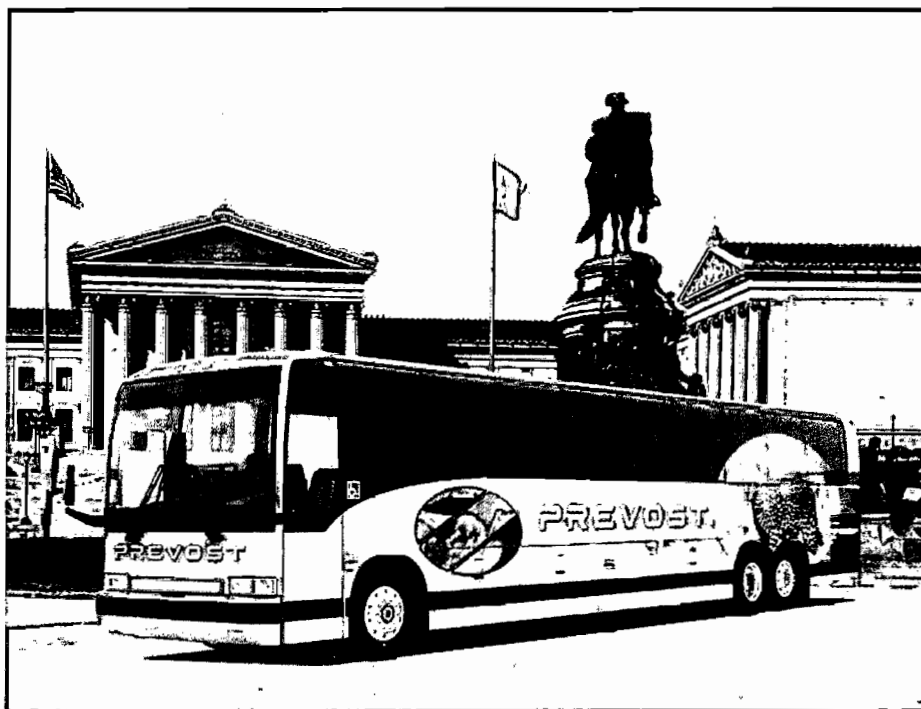


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EVALUATION OF OCCUPANT PROTECTION IN BUSES

TP 14006E



TC Contract No. T8080-01-1214

Prepared by: RONA Kinetics and Associates Ltd., North Vancouver, B.C.
Report RK02-06, 4 June 2002

Prepared for: W. T. (Bill) Gardner
Road Safety and Motor Vehicle Regulation (ASFBE)

Canada

Evaluation of Occupant Protection in Buses

SUMMARY OF REGULATIONS APPLICABLE TO BUS OCCUPANT PROTECTION

CMVSS 201 - Occupant Protection

- Purpose:** To minimise the severity of head and other contacts which might be made by vehicle occupants with the interior of the vehicle.
- Applicability:** Buses with GVWR of 4,536 kg (10,000 lb) or less.

CMVSS 202 - Head Restraints

- Purpose:** To reduce the frequency and severity of the hyper-extension type of neck injuries suffered in rear-end collisions.
- Applicability:** Buses with GVWR of 4,536 kg (10,000 lb) or less.

CMVSS 203 - Driver Impact Protection

- Purpose:** To reduce the frequency and severity of chest injuries sustained by drivers who strike the steering system in frontal collisions.
- Applicability:** Buses with a GVWR of 4,536 kg (10,000 lb) or less. Does not apply to vehicles that meet the frontal crash requirements of CMVSS 208 by means other than seat belt assemblies.

CMVSS 204 - Steering Column Rearward Displacement

- Purpose:** To reduce the incidence and severity of injuries caused by the steering column in frontal collisions.
- Applicability:** Buses having a GVWR of 4,536 kg (10,000 lb) or less.

CMVSS 205 - Glazing Materials

- Purpose:** To reduce the incidence and severity of injuries sustained by occupants who come in contact with glazed interior surfaces during a collision.
- Applicability:** Multipurpose passenger vehicles

Evaluation of Occupant Protection in Buses

CMVSS 207 - Anchorages of Seats

Purpose: To reduce the frequency and severity of injuries caused by seat anchorage failures.

Applicability: Driver seat only (excludes bus passenger seats).

CMVSS 208 – Occupant Restraint Systems in Frontal Impact

Purpose: To reduce injuries sustained in frontal collisions through the installation of restraint systems meeting the dynamic criteria.

Applicability: Every bus that has a GVWR of 4,536 kg (10,000 lb) or less, other than a school bus, shall be equipped at each forward-facing rear outboard designated seating position with a Type 2 seat belt assembly.

A bus that has a GVWR greater than 4,536 kg (10,000 lb) shall be equipped at the driver's seating position with a Type 1 or Type 2 seat belt assembly.

CMVSS 209 - Seat Belt Assemblies

Purpose: To minimise the possibility of seat belt failure during a collision.

Applicability: Every seat belt assembly with which a vehicle is equipped.

CMVSS 210 - Seat Belt Assembly Anchorages

Purpose: To minimise the possibility of a seat belt anchorage failing during a collision and to specify the anchorage locations.

Applicability: Every designated seating position fitted with a seat belt assembly, seat belt anchorages need not be installed for a passenger seat in a bus.

CMVSS 212 - Windshield Mounting

Purpose: To minimise the possibility of ejection through the windshield area.

Applicability: Buses with GVWR of 4,536 kg (10,000 lb) or less.

Evaluation of Occupant Protection in Buses

CMVSS 213.4 - Built-in Child Restraint Systems and Built-in Booster Cushions

Purpose: To provide protection to children weighing over 9 kg (20 lb) involved in motor vehicle collisions.

Applicability: Every built-in child restraint system and built-in booster cushion.

CMVSS 214 - Side Door Strength

Purpose: To provide protection to the occupants of a vehicle when it is struck in the side.

Applicability: Buses with a GVWR 4,536 kg (10,000 lb) or less

CMVSS 216 - Roof Intrusion Protection

Purpose: To protect vehicle occupants in collisions involving rollover by specifying roof strength requirements.

Applicability: Buses with a GVWR 2,722 kg (6,000 lb) or less, except school buses.

CMVSS 217 - Bus Window Retention, Release and Emergency Exits

Purpose: To minimise the possibility of ejection through bus windows and to specify emergency exit requirements.

Applicability: Buses

CMVSS 219 - Windshield Zone Intrusion

Purpose: To minimise the intrusion of the vehicle's hood into the windshield area during a frontal impact and hence reduce the possibility of injuries to the front seat occupants.

Applicability: Buses with a GVWR of 4,536 kg (10,000 lb) or less.

CMVSS 220 - Rollover Protection

Purpose: To protect school bus occupants in rollovers by establishing a roof strength requirement.

Applicability: School buses

Evaluation of Occupant Protection in Buses

CMVSS 221 - School Bus Body Joint Strength

Purpose: To minimise the potential for injury caused by riveted joints on the interior surface of school bus separating and exposing sharp edges in a collision.

Applicability: School buses

CMVSS 222 - School Bus Passenger Seating & Crash Protection

Purpose: To protect the occupants of a school bus involved in a collision by containing them between the seats or between the seat and a barrier ahead of the seat.

Applicability: School buses

FMVSS

with respect to buses they are essentially the same as CMVSS, except for:

every bus manufactured on or after 1 July 1971 must also conform to requirements of FMVSS 208 (571.208, relating to installation of seat belt assemblies) and FMVSS 210 (571.210, relating to installation of seat belt assembly anchorages);

every bus manufactured on or after 1 January 1972 must conform to the requirements of FMVSS 207 (571.207, relating to seating systems).

Evaluation of Occupant Protection in Buses

ECE Regulation 14 – Uniform Provisions Concerning the Approval of Vehicles With Regard to Safety Belt Anchorages

- Purpose:** To specify, in particular, the strength requirements for seat belt anchorages.
- Applicability:** Anchorages for safety-belts for adult occupants of forward-facing seats in vehicles of category M.

ECE Regulation 16 – Uniform Provisions Concerning the Approval of Safety-Belts and Restraint Systems for Occupants of Power-Driven Vehicles and Vehicles Equipped with Safety-Belts

- Purpose:** To assure the satisfactory operation of the belt or restraint system (when correctly installed and properly used) and that it reduces the risk of bodily injury in the event of a collision.
- Applicability:** Safety-belts and restraint systems in power-driven vehicles with three or more wheels.

ECE Regulation 36 – Uniform Provisions Concerning the Approval of Large Passenger Vehicles With Regard to their General Construction

- Purpose:** To specify requirements for general construction including some relating to bus occupant safety notably protection against fire risks, exits and interior arrangements (access to emergency exits).
- Applicability:** Single-deck rigid or articulated vehicles designed and constructed for the carriage of persons and having the capacity in excess of 16 passengers, whether seated or standing, in addition to the driver, and having an overall width exceeding 2.30 metres.

ECE Regulation 66 – Uniform Provisions Concerning the Approval of Large Passenger Vehicles With Regard to Strength of Superstructure

- Purpose:** To determine that the superstructure of the vehicle shall be of sufficient strength such that when subjected to one of the prescribed tests or calculations, no displaced part of the vehicle intrudes into the defined "residual space" of the passenger compartment and no part of the residual space shall project outside the deformed structure.
- Applicability:** Single-decked vehicles constructed for the carriage of more than sixteen passengers, whether seated or standing, in addition to the driver and crew.

Evaluation of Occupant Protection in Buses

ECE Regulation 80 – Uniform Provisions Concerning the Approval of Seats of Large Passenger Vehicles and of these Vehicles With Regard to Strength of Seats and their Anchorages

Purpose: To specify that the seat occupants are correctly retained by the seats in front of them and not seriously injured. To specify the strength of the seat and seat mountings.

Applicability: Vehicles constructed for carriage of more than sixteen passengers, in addition to the driver and crew.